

Figure 1

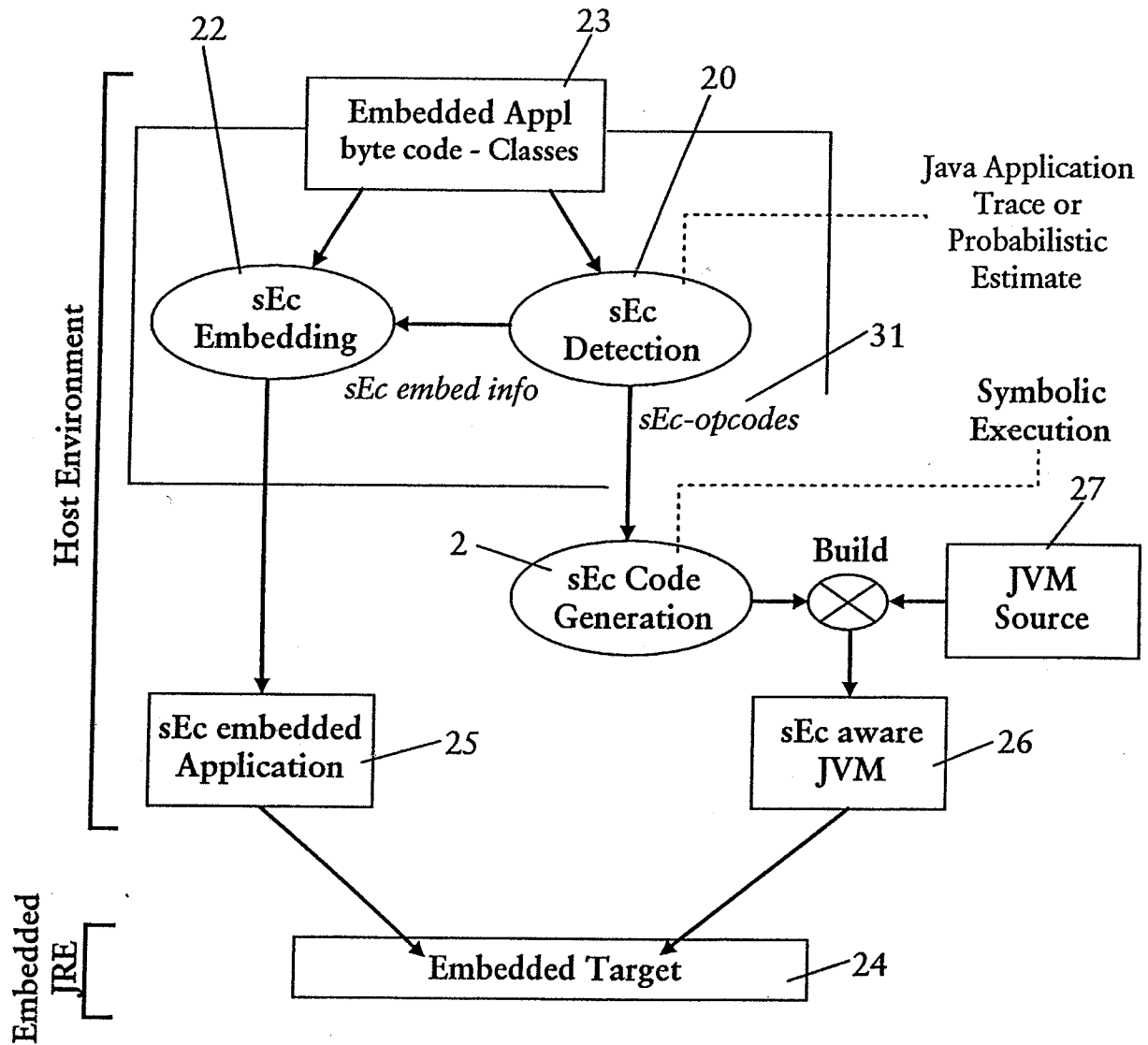


Figure 2

SEC_hook [Dot, loopit, ()V < offset:31, NUM_INS:9, SIZE:12>	SEC_hook [Dot, loopit, ()V < offset:54, NUM_INS:11, SIZE:15>
<i>Begin Basic Block</i> ALOAD_1 ILOAD_3 ALOAD_2 ILOAD_3 BIPUSH DUP_X2 IASTORE IASTORE IINC <i>End Basic Block</i>	<i>Begin Basic Block</i> ALOAD_1 ILOAD_3 IALOAD ALOAD_2 ILOAD_3 IALOAD IMUL ILOAD IADD ISTORE IINC <i>End Basic Block</i>
[1800000]: Bytecode Hit Count sEc opcode: sEcopcode 235	[2200000]: Bytecode Hit Count sEc opcode: sEcopcode_236

Figure 3

<pre> public class A {     int a;     public void set(int setvalue)     {a = setvalue;}      public int get()     {return a;}      public int square ()     {return a*a;} } </pre>	<pre> public class B {     int b;     public void set(int setvalue)     {b = setvalue;}      public int get()     {return b;}      public int cube ()     {return b*b*b;} } </pre>
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Figure 4a

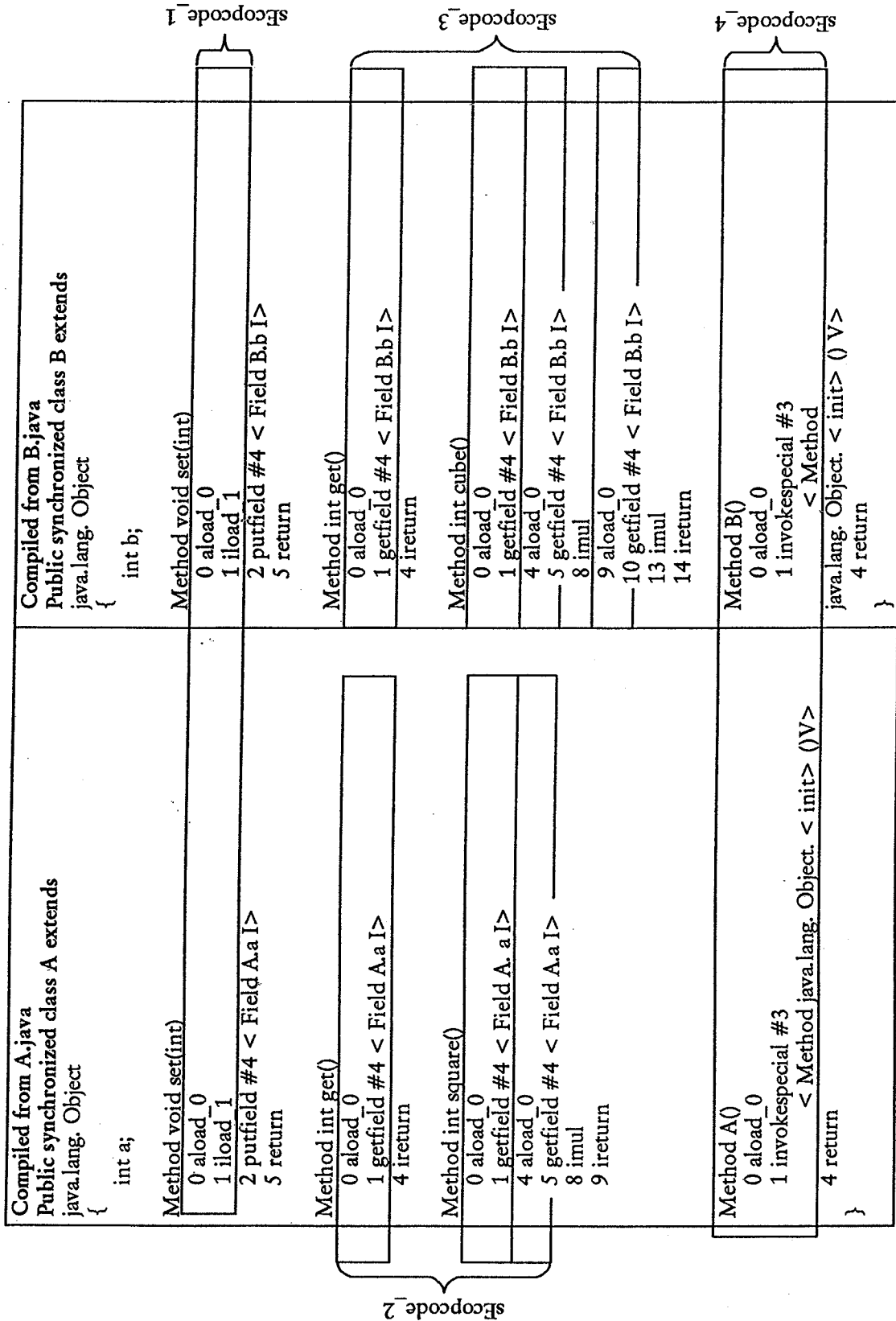


Figure 4b

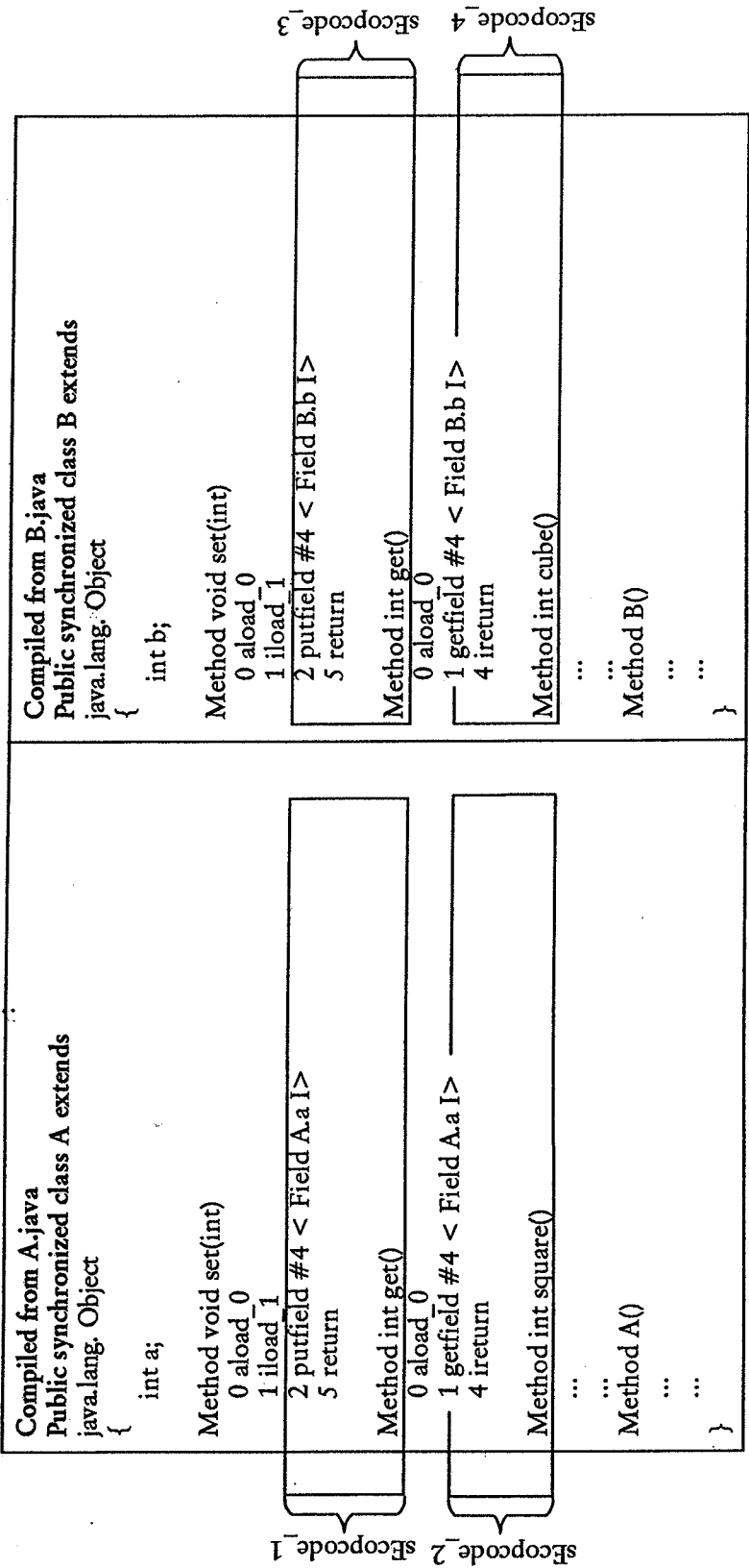


Figure 5

sE-opcode sequence	Symbol created	eEc Symbolic state →	sEc Local Var Table					Code Generated in 'C'
			1	2	3	4	5	
Prologue		//well formed sEc-opcode, no code generated						// No code generated
ALOAD 1	O1	O1		O1				O1 = JLV(1)
ILOAD 3	O2	O1,O2			O2			O2 = JLV(3)
ILOAD	O3	O3						O3 = Macr(O1, O2)
ALOAD 2	O4	O3,O4						O4 = JLV(2)
ILOAD 3	O5	O3,O4,O5						O5 = O2
ILOAD	O6	O3,O6			O5			O6 = Macr(O4, O5)
IMUL	O7	O7						O7 = O3 * O6
ILOAD 5	O8	O7,O8					O8	O8 = f(JLV(1))
IADD	O9	O9						O9 = f(O7,O8))
ISTORE 5							O9 <sup>D</sup>	// No code generated
IINC 3 1						O5 <sup>D</sup>		O5 <sup>D</sup> = f(O5,1)
Epilogue		// No stack update // consolidated JVM pc update						JLV(3) = O5 JLV(5) = O9 PC = PC + 15
JVM_word *Ptr_lvp = jvm_stack_base + lvp // Pointer to current Java invocation Frame								
//								
#define JLV(x) *(Ptr_lvp + x)		// Reference to Java Local Variable on a Java Frame						
Macr( O1, O2)		// Macro to fetch O2 <sup>th</sup> element for O1 array object						
		// O1 and O2 are macro parameter.						

Figure 6